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EXAMINER
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ART UNIT	PAPER NUMBER
2168	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/603,034	CHAYES ET AL.
	Examiner	Art Unit	
	Jay A. Morrison	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>25 June 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-42</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-42</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>24 June 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/21/03 & 7/25/05</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-42 are pending.

Claim Objections

2.   Claims 33 and 42 are objected to because of the following informalities:

a.   As per claim 33: missing period at end of claim.

b.   As per claim 42: missing period at end of claim.

Appropriate correction is required.

Applicant is advised that should claims 33-35 be found allowable, claims 36-38

will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When

two claims in an application are duplicates or else are so close in content that they both

cover the same thing, despite a slight difference in wording, it is proper after allowing

one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-15,21-30,32-39, and 41-42 are rejected under 35 U.S.C. 101 because

the claimed invention is directed to non-statutory subject matter.

With respect to claims 1-15,30,32-39, and 41, the system disclosed in the

detailed description is not coupled to a data store in all aspects of the invention and

therefore the cited claims do not always produce a useful, concrete and tangible result.

With respect to claims 21-29, 42 the cited claims do not produce a useful,

concrete and tangible result.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ding ("Analysis of gene expression profiles: class discovery and leaf ordering",

RECOMB 2002, April 2002), in view of Uomini, Patent Number 5,819,269.

With respect to claim 1, Ding teaches

"a data reception component that receives and recognizes data relating to a

plurality of newsgroups" (page 3, section 4.1, first paragraph, whereas Ding's internet

newsgroup is equivalent to the claimed component which receives and recognizes

newsgroup data);

"an engine that constructs a weighted graph" (page 3, section 4, whereas Ding's

first computed and stored in matrix W which defines a weight matrix is equivalent to the

claimed construction of a weighted graph) "with a subset of the newsgroups" (Pages 3-

4, section 4.1, third paragraph, whereas Ding's newsgroup data sets is equivalent to the

claimed subset of newsgroups) "represented as vertices of the graph" (page 3, section

4.1, second paragraph, whereas Ding's nodes are equivalent to vertices) "and ...

represented as edges" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "cross-postings relating to the subset of

newsgroups".

However, Uomini teaches "cross-postings relating to the subset of newsgroups"

(column 7, lines 38-47).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "cross-postings relating

to the subset of newsgroups" would have given those skilled in the art the tools to

improve the invention by allowing postings to reach more users which may be interested

in the message which is posted. This gives the user the advantage of being able to

have the ability to reach more users without having to submit a post to every newsgroup

individually, as suggested by Uomini (see column 7, lines 18-25 and column 8, lines 1-

7).

With respect to claim 2,

Ding does not explicitly indicate "a search engine".

However, Uomini teaches "A search engine" (column 6, lines 55-65, whereas

messages from server are filtered is equivalent to the claimed search engine).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "a search engine" would

have given those skilled in the art the tools to improve the invention by allowing the user

to select only that which is of interest. This gives the user the advantage of being able to

have the ability to more efficiently find desired information.

With respect to claim 3,

Ding discloses "a segmenting component that segments the weighted graph"

(page 3, section 4, second paragraph, whereas Ding's partitioning the graph is

equivalent to the claimed segmenting of the weighted graph) "via spectral clustering"

(page 1, first paragraph, whereas Ding's spectral graph partitioning is equivalent to the claimed spectral clustering).

With respect to claim 4,

Ding discloses "the segmenting performed as a function of a number of" (page 3, section 4, second paragraph, whereas Ding's partitioning based on certain criteria is equivalent to the claimed segmenting performed as function).

Ding does not explicitly indicate "cross-postings between newsgroups".

Uomini discloses "cross-postings between newsgroups" (column 7, lines 38-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "cross-postings between newsgroups" would have given those skilled in the art the tools to improve the invention by allowing postings to reach more users which may be interested in the message which is posted. This gives the user the advantage of being able to have the ability to reach more users without having to submit a post to every newsgroup individually.

With respect to claim 5,

Ding teaches "the segmenting component partitioning vertices of the weighted graph into segments so that a total number of edges between different segments is substantially minimized" (page 4, section 5, first paragraph, and figure 1 description,

whereas Ding's principle component analysis to reduce the data is equivalent to the claimed total number of edges is substantially minimized).

With respect to claim 6,

Ding teaches "the segmenting component partitions segments recursively" (page 4, section 4.2, whereas Ding's recursive clustering by examining leaf nodes until none can be further partitioned is equivalent to the claimed partitioning of segments recursively).

With respect to claim 7,

Ding teaches "a post-processing component that merges a first cluster into a second cluster" (page 3, section 4, first paragraph, whereas Ding's merging clusters is equivalent to the claimed merging of first cluster into second cluster) " if a sum of weights between the clusters" (page 3, section 4.1, first paragraph) "is greater than a threshold" (page 4, section 4.2, second paragraph).

With respect to claim 8,

Ding teaches "the threshold being a function of sum of weights of an edge adjacent to the first cluster" (page 3, section 4.1, whereas Ding's sum of edge weights is equivalent to the claimed sum of weights of an edge).

With respect to claim 9,

Ding teaches "two clusters are merged" (page 3, section 4, first paragraph, whereas Ding's merging clusters is equivalent to the claimed clusters are merged) "when sum of the weights of edges between a first cluster and a second cluster is more than half of a sum of weights of edges adjacent to the first cluster" (page 3, section 4.1, first paragraph, whereas Ding's sum of edge weights is equivalent to the claimed sum of the weights of edges).

With respect to claim 10,

Ding teaches "a filtering component that facilitates excluding particular newsgroups from being represented in the weighted graph so as to facilitate reducing the size of the graph" (page 3, section 4.1, first paragraph, whereas Ding's internet newsgroup is equivalent to the claimed newsgroups, and page 4, section 5, first paragraph, and figure 1 description, whereas Ding's principle component analysis to reduce the data is equivalent to the claimed excluding to facilitate reducing the graph size).

With respect to claim 11,

Ding does not explicitly indicate "the filtering component excludes newsgroups which do not contain a threshold number of postings".

However, Uomini discloses "the filtering component excludes newsgroups which do not contain a threshold number of postings" (column 6, lines 44-54, whereas Uomini's module for filtering newsgroups is equivalent to the claimed filtering

component which excludes newsgroups and column 3, lines 40-60, whereas Uomini's

too few messages is equivalent to the claimed not containing a threshold number of

postings).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "the filtering component

excludes newsgroups which do not contain a threshold number of postings" would have

given those skilled in the art the tools to improve the invention by reducing the number

of newsgroups which have to be processed. This gives the user the advantage of being

able to have the ability filter out newsgroups which are of little use due to their few

postings.

With respect to claim 12,

Ding does not explicitly indicate "the filtering component excludes newsgroups by

utilizing an implicitly trained classifier that infers the type of newsgroup desired by a

user".

However, Uomini discloses "the filtering component excludes newsgroups by

utilizing an implicitly trained classifier that infers the type of newsgroup desired by a

user" (column 7, lines 57-67, whereas Uomini's user gathering messages from

subscribed newsgroups is equivalent to the claimed exclusion of newsgroups by trained

classifier).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "the filtering component

excludes newsgroups by utilizing an implicitly trained classifier that infers the type of

newsgroup desired by a user" would have given those skilled in the art the tools to

improve the invention by reducing the number of newsgroups which have to be

processed. This gives the user the advantage of being able to have the ability filter out

newsgroups which are of little interest.

With respect to claim 13,

Ding teaches "a paring component that trims edges of the weighted graph with

weight less than a threshold weight" (page 4, section 5, first paragraph, and figure 1

description, whereas Ding's principle component analysis to reduce the data is

equivalent to the claimed trimming edges with weight less than threshold).

With respect to claim 14,

Ding teaches "the threshold weight is an increasing function of size of the data to

be graphed" (page 4, section 4.2, second paragraph, whereas Ding's threshold is

equivalent to the claimed threshold weight).

With respect to claim 15,

Ding teaches "the paring component removes vertices" (page 4, section 5, first

paragraph, and figure 1 description, whereas Ding's principle component analysis to

reduce the data is equivalent to the claimed removing of vertices) "when the vertices are

not interconnected by edges to a threshold number of vertices" (page 4, section 4.2,

second paragraph, whereas Ding's threshold is equivalent to the claimed threshold

weight).

With respect to claim 16,

Ding teaches "upon generation of the weighted graph such weighted graph"

(page 3, section 4, whereas Ding's first computed and stored in matrix W which defines

a weight matrix is equivalent to the claimed upon generation of the weighted graph).

Ding does not explicitly indicate "is relayed to a data store".

However, Uomini discloses "is relayed to a data store" (column 5, lines 1-15,

whereas Uomini's transported and stored in a database).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "is relayed to a data

store" would have given those skilled in the art the tools to improve the invention storing

the information for later use. This gives the user the advantage of being able to have the

ability to view or process the data at a later time.

With respect to claim 17,

Ding does not explicitly indicate "newsgroup data received by the data reception

component is relayed to the data store".

However, Uomini discloses "newsgroup data received by the data reception

component is relayed to the data store" (column 5, lines 1-15, whereas Uomini's

message stored is equivalent to the claimed newsgroup data relayed to data store).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "newsgroup data received by the data reception component is relayed to the data store" would have given those skilled in the art the tools to improve the invention storing the information for later use. This gives the user the advantage of being able to have the ability to view or process the data at a later time.

With respect to claim 18,

Ding teaches "the weighted graph" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "outputs ... to a display device".

However, Uomini discloses "outputs ... to a display device" (column 7, lines 55-67, whereas Uomini's displays is equivalent to the claimed to a display device).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "outputs ... to a display device" would have given those skilled in the art the tools to improve the invention allow the user to view the data. This gives the user the advantage of being able to have the ability to see the results the system generated.

With respect to claim 19,

Ding teaches "the weighted graph" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "displays ... textually".

However, Uomini discloses "displays ... textually" (column 7, lines 55-67, whereas Uomini's displays is equivalent to the claimed displaying textually).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "displays ... textually" would have given those skilled in the art the tools to improve the invention allow the user to view the data. This gives the user the advantage of being able to have the ability to see the results the system generated.

With respect to claim 20,

Ding does not explicitly indicate "embodied in a computer readable medium".

However, Uomini discloses "embodied in a computer readable medium" (column 5, lines 1-15, whereas Uomini's stored in a news database is equivalent to the claimed computer readable medium).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "embodied in a computer readable medium" would have given those skilled in the art the tools to improve the invention storing the information for later use. This gives the user the advantage of being able to have the ability to view or process the data at a later time.

With respect to claim 21,

Ding teaches "receiving and recognizing data relating to a plurality of newsgroups" (page 3, section 4.1, first paragraph, whereas Ding's internet newsgroup is equivalent to the claimed component which receives and recognizes newsgroup data);

Ding discloses "and constructing a weighted graph" (page 3, section 4, whereas Ding's first computed and stored in matrix W which defines a weight matrix is equivalent to the claimed construction of a weighted graph) "such that newsgroups" (Pages 3-4, section 4.1, third paragraph, whereas Ding's newsgroup data sets is equivalent to the claimed newsgroups) "are represented as vertices" (page 3, section 4.1, second paragraph, whereas Ding's nodes are equivalent to vertices) "and ... are represented as edges" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "cross-posts".

However, Uomini teaches "cross-posts" (column 7, lines 38-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "cross-posts" would have given those skilled in the art the tools to improve the invention by allowing postings to reach more users which may be interested in the message which is posted. This gives the user the advantage of being able to have the ability to reach more users without having to submit a post to every newsgroup individually.

With respect to claim 22,

Ding teaches "from the weighted graph" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "excluding one or more newsgroups ... when the one or more newsgroups does not contain a threshold of postings".

However, Uomini discloses "excluding one or more newsgroups ... when the one or more newsgroups does not contain a threshold of postings" (column 6, lines 44-54, whereas Uomini's module for filtering newsgroups is equivalent to the claimed excludes one or more newsgroups newsgroup and column 3, lines 40-60, whereas Uomini's too few messages is equivalent to the claimed not containing a threshold number of postings).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "excluding one or more newsgroups ... when the one or more newsgroups does not contain a threshold of postings" would have given those skilled in the art the tools to improve the invention by reducing the number of newsgroups which have to be processed. This gives the user the advantage of being able to have the ability filter out newsgroups which are of little interest.

With respect to claim 23,

Ding teaches "from the weighted graph" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "excluding one or more newsgroups ... by utilizing implicitly trained classifiers".

However, Uomini discloses "excluding one or more newsgroups ... by utilizing an implicitly trained classifiers" (column 7, lines 57-67, whereas Uomini's user gathering messages from subscribed newsgroups is equivalent to the claimed exclusion of newsgroups by trained classifier).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "excluding one or more newsgroups ... by utilizing an implicitly trained classifiers" would have given those skilled in the art the tools to improve the invention by reducing the number of newsgroups which have to be processed. This gives the user the advantage of being able to have the ability filter out newsgroups which are of little interest.

With respect to claim 24,

Ding teaches "segmenting the weighted graph into clusters" (page 3, section 4.1, first paragraph, whereas Ding's partitioning the weighted graph is equivalent to the claimed segmenting of the weighted graph).

With respect to claim 25,

Ding teaches "a spectral clustering algorithm is utilized to segment the weighted graph into clusters" (page 1, first paragraph, whereas Ding's spectral graph partitioning is equivalent to the claimed spectral clustering).

With respect to claim 26,

Ding teaches "the spectral clustering algorithm is applied recursively to the weighted graph" (page 4, section 4.2, whereas Ding's recursive clustering by examining leaf nodes until none can be further partitioned is equivalent to the claimed applying the clustering algorithm recursively).

With respect to claim 27, Ding teaches

"calculating vector v by solving an equation Lv=.lambda.Dv, wherein L=D-A is the Laplacian of the adjacency matrix A=(.alpha..sub.ij), D is a diagonal matrix with d.sub.ii=.SIGMA..sub.ja.s- ub.ij, and .lambda. is the second smallest eigenvalue of L; determining maximum and minimum values contained within vector v; dividing an interval between the maximum and minimum values of v into Q smaller intervals; locating a smallest Mcut ratio at endpoints of the Q intervals, wherein S and {overscore (S)} are two segments resulting from a proposed cut, cut=.SIGMA..sub.i.epsilon.S,j.epsilon.{overscore (S)}.alpha..sub.ij, W.sub.S=.SIGMA..sub.i,j.epsilon.S.alpha..sub.ij, and 7 Mcut = cut W S + cut W S _; calculating a minimum Mcut ratio of an integer P eigenvector entries before and after the endpoint found to have a lowest Mcut ratio of the Q intervals; comparing the minimum Mcut ratio of the P eigenvector entries to a threshold t; and segmenting the eigenvector entry where the minimum Mcut ratio is found if the Mcut ratio is less than the threshold t" (pages 3-4, section 4.1).

With respect to claim 28,

Ding teaches "merging the segmented clusters" (page 3, section 4, first paragraph, whereas Ding's merging clusters is equivalent to the claimed merging the clusters) "if the weights of edges between clusters" (page 3, section 4.1, first paragraph, whereas Ding's edge weights is equivalent to the claimed weights of edge) "is greater than a threshold" (page 4, section 4.2, second paragraph).

With respect to claim 29,

Ding teaches "the threshold being a function of sum of weights of an edge adjacent to the first cluster" (page 3, section 4.1, first paragraph, whereas Ding's sum of edge weights is equivalent to the claimed sum of weights of edge).

With respect to claim 30, Ding teaches

"a data reception component that receives data relating to a plurality of newsgroups" (page 3, section 4.1, first paragraph, whereas Ding's internet newsgroup is equivalent to the claimed component which receives and recognizes newsgroup data);

"an engine that constructs a weighted graph" (page 3, section 4, whereas Ding's first computed and stored in matrix W which defines a weight matrix is equivalent to the claimed construction of a weighted graph) "with a subset of the newsgroups" (Pages 3-4, section 4.1, third paragraph, whereas Ding's newsgroup data sets is equivalent to the claimed subset of newsgroups) "represented as vertices of the graph," (page 3, section 4.1, second paragraph, whereas Ding's nodes are equivalent to vertices) "and ... represented as edges" (page 3, section 4.1, first paragraph);

"and further comprising at least one of the following components: a filtering component that facilitates excluding particular newsgroups from being represented in the graph so as to facilitate reducing the size of the graph; a paring component that trims edges of the graph with weight less than a threshold weight so as to facilitate reducing the size of the graph; a segmenting component that segments the graph via spectral clustering; and a post-processing component that merges a first cluster into a segment cluster if a sum of weights between the clusters is greater than a threshold" (page 3, section 4.1, first paragraph, whereas Ding's internet newsgroup is equivalent to the claimed newsgroups, and page 4, section 5, first paragraph, and figure 1 description, whereas Ding's principle component analysis to reduce the data is equivalent to the claimed excluding to facilitate reducing the graph size).

Ding does not explicitly indicate "cross-postings relating to a subset of newsgroups".

However, Uomini teaches "cross-postings relating to the subset of newsgroups" (column 7, lines 38-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "cross-postings relating to the subset of newsgroups" would have given those skilled in the art the tools to improve the invention by allowing postings to reach more users which may be interested in the message which is posted. This gives the user the advantage of being able to have the ability to reach more users without having to submit a post to every newsgroup individually.

With respect to claim 31,

Ding does not explicitly indicate "a data store for storing at least one of the following: newsgroup data received by the data reception component; algorithms utilized for segmenting the weighted graph; the weighted graph generated by the graphing engine; and the segmented graph upon the weighted graph being segmented via the segmenting component".

However, Uomini discloses "a data store for storing at least one of the following: newsgroup data received by the data reception component; algorithms utilized for segmenting the weighted graph; the weighted graph generated by the graphing engine; and the segmented graph upon the weighted graph being segmented via the segmenting component" (column 5, lines 1-15, whereas Uomini's message stored is equivalent to the claimed newsgroup data relayed to data store).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "a data store for storing at least one of the following: newsgroup data received by the data reception component; algorithms utilized for segmenting the weighted graph; the weighted graph generated by the graphing engine; and the segmented graph upon the weighted graph being segmented via the segmenting component" would have given those skilled in the art the tools to improve the invention storing the information for later use. This gives the user the advantage of being able to have the ability to view or process the data at a later time.

With respect to claim 32,

Ding teaches "the post-processing component outputting the modified weighted graph" (page 3, section 4, whereas Ding's first computed and stored in matrix W which defines a weight matrix is equivalent to the claimed output of a modified weighted graph).

With respect to claim 33,

Ding does not explicitly indicate "a search engine".

However, Uomini teaches "a search engine" (column 6, lines 55-65, whereas messages from server are filtered is equivalent to the claimed search engine).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "a search engine" would have given those skilled in the art the tools to improve the invention by allowing the user to select only that which is of interest. This gives the user the advantage of being able to have the ability to more efficiently find desired information.

With respect to claim 34,

Ding does not explicitly indicate "a newsgroup browser".

However, Uomini discloses "a newsgroup browser" (column 6, lines 44-54, whereas Uomini's news reader program is equivalent to the claimed newsgroup browser).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "a newsgroup browser" would have given those skilled in the art the tools to improve the invention by allowing the user to view newsgroup messages. This gives the user the advantage of being able to have the ability to more efficiently find desired information.

With respect to claim 36-37

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 33-34 and are similarly rejected.

With respect to claim 39,

Ding teaches "clustering of newsgroups" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "related to buying and selling of goods and services".

However, Uomini discloses "related to buying and selling of goods and services" (column 1, table 1, whereas Uomini's misc.forsale is equivalent to the claimed related to buying and selling of goods and services).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "related to buying and selling of goods and services" would have given those skilled in the art the tools to improve the invention by allowing the user access to information related to commerce. This gives the user the advantage of being able to be involved in a marketplace.

With respect to claim 40, Ding teaches

"receiving newsgroup data" (page 3, section 4.1, first paragraph, whereas Ding's internet newsgroup is equivalent to the claimed receiving newsgroup data);

"paring" (page 3, section 4, first paragraph, whereas Ding's merging is equivalent to the paring) "edges with weight" (page 3, section 4.1, first paragraph, whereas Ding's edge weights is equivalent to the claimed weights of edge) "below a threshold" (page 4, section 4.2, second paragraph);

"generating a weighted graph" (page 3, section 4, whereas Ding's first computed and stored in matrix W which defines a weight matrix is equivalent to the claimed generation of a weighted graph) "with the newsgroups" (Pages 3-4, section 4.1, third paragraph, whereas Ding's newsgroup data sets is equivalent to the claimed newsgroups) "represented as vertices" (page 3, section 4.1, second paragraph, whereas Ding's nodes are equivalent to vertices) "and the ... represented as edges" (page 3, section 4.1, first paragraph);

"segmenting the graph into clusters" (page 3, section 4.1, first paragraph, whereas Ding's partitioning the weighted graph is equivalent to the claimed segmenting of the weighted graph);

"merging clusters" (page 3, section 4, first paragraph, whereas Ding's merging clusters is equivalent to the claimed merging of first cluster into second cluster) " if the sum of weights between the clusters" (page 3, section 4.1, first paragraph) "is greater than a threshold" (page 4, section 4.2, second paragraph);

"and outputting the graph" (page 3, section 4, second paragraph, whereas Ding's

storing the graph is equivalent to the claimed outputting of the graph).

Ding does not explicitly indicate "excluding newsgroups that do not contain a

threshold number of postings".

However, Uomini teaches "excluding newsgroups that do not contain a threshold

number of postings" (column 6, lines 44-54, whereas Uomini's module for filtering

newsgroups is equivalent to the claimed excludes one or more newsgroups newsgroup

and column 3, lines 40-60, whereas Uomini's too few messages is equivalent to the

claimed not containing a threshold number of postings).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "excluding newsgroups

that do not contain a threshold number of postings" would have given those skilled in

the art the tools to improve the invention by reducing the number of newsgroups which

have to be processed. This gives the user the advantage of being able to have the

ability filter out newsgroups which are of little use due to their few postings.

Ding does not explicitly indicate "cross-postings".

However, Uomini discloses "cross-postings" (column 7, lines 38-47).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to combine Ding and Uomini because using the steps "cross-postings" would

have given those skilled in the art the tools to improve the invention by allowing postings

to reach more users which may be interested in the message which is posted. This

gives the user the advantage of being able to have the ability to reach more users without having to submit a post to every newsgroup individually.

With respect to claim 41,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 1 and is similarly rejected.

With respect to claim 42,

Ding teaches "a weighted graph representative of" (page 3, section 4.1, first paragraph) "a plurality of newsgroups with a subset of the newsgroups" (Pages 3-4, section 4.1, third paragraph, whereas Ding's newsgroup data sets is equivalent to the claimed subset of newsgroups) "represented as vertices of the graph," (page 3, section 4.1, second paragraph, whereas Ding's nodes are equivalent to vertices) " and ... represented as edges" (page 3, section 4.1, first paragraph).

Ding does not explicitly indicate "a field that stores".

However, Uomini discloses "a field that stores" (column 6, lines 10-30, whereas Uomini's category stored is equivalent to the claimed field that stores).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "a field that stores" would have given those skilled in the art the tools to improve the invention storing the information for later use. This gives the user the advantage of being able to have the ability to view or process the data at a later time.

Ding does not explicitly indicate "cross-postings relating to the subset of newsgroups".

However, Uomini discloses "cross-postings relating to the subset of newsgroups" (column 7, lines 38-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "cross-postings relating to the subset of newsgroups" would have given those skilled in the art the tools to improve the invention by allowing postings to reach more users which may be interested in the message which is posted. This gives the user the advantage of being able to have the ability to reach more users without having to submit a post to every newsgroup individually.

Claims 35 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ding ("Analysis of gene expression profiles: class discovery and leaf ordering", RECOMB 2002, April 2002), in view of Uomini, Patent Number 5,819,269, and further in view of Gage et al., Patent Number 5,923,846.

With respect to claim 35,

Ding and Uomini do not explicitly indicate "an email program".

However, Gage teaches "an email program " (column 16, lines 22-36, whereas Gage's email system is equivalent to the claimed email program).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ding and Uomini because using the steps "an email program" would have given those skilled in the art the tools to improve the invention by allowing allow data to be downloaded through a publicly accessible network. This gives the user the advantage of being able to access the system using a widely available standard email client.

With respect to claim 38,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 35 and is similarly rejected.
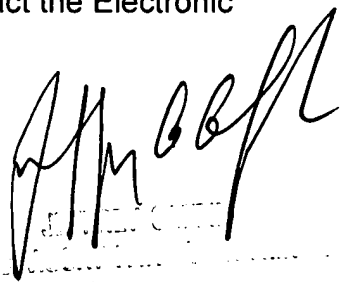

Conclusion

5.   The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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